## **EAST Search History**

## EAST Search History (Prior Art)

| Ref<br># | Hits | Search Query   | DBs                          | Default<br>Operator | Plurals | Time Stamp          |
|----------|------|--|------------------------------|---------------------|---------|---------------------|
| L1       | 14   | @pd<"20030910" and<br>(separator or bipolar<br>plate) and (multiple near3<br>resin near3 (layer or film))  | US-PGPUB;<br>USPAT;<br>USOCR | ADJ                 | ON      | 2009/08/02<br>18:14 |
| L2       | 9    | ("2811572"   "2902530"  <br>"3520729"   "3880672").<br>PN. OR ("4041219").<br>URPN.  | US-PGPUB;<br>USPAT;<br>USOCR | ADJ                 | ON      | 2009/08/02<br>18:26 |
| L3       | 211  | @pd<"20030910" and<br>(separator or bipolar<br>plate) and ((first or<br>second or third) near3<br>resin near3 (layer or film))                               | US-PGPUB;<br>USPAT;<br>USOCR | ADJ                 | ON      | 2009/08/02<br>18:29 |
| L4       | 209  | @pd<"20030910" and<br>(separator or bipolar<br>plate) and ((first or<br>second or third) near3<br>resin near3 (layer or film))<br>not I1                     | US-PGPUB;<br>USPAT;<br>USOOR | ADJ                 | ON      | 2009/08/02<br>18:29 |
| L5       | 48   | @pd<"20030910" and<br>(separator or bipolar<br>plate) and ((first or<br>second or third) near3<br>resin near3 (layer or film))<br>not 11 and 429/1-255.cds.  | US-PGPUB;<br>USPAT;<br>USOOR | ADJ                 | ON      | 2009/08/02<br>18:30 |
| L6       | 14   | @pd<"20030910" and<br>(separator or bipolar<br>plate) same ((first or<br>second or third) near3<br>resin near3 (layer or film))<br>not 11 and 429/1-255.cds. | US-PGPUB;<br>USPAT;<br>USOCR | ADJ                 | ON      | 2009/08/02<br>18:34 |
| L7       | 1    | ("2001/0005560").URPN.   | USPAT                        | ADJ                 | ON      | 2009/08/02<br>18:35 |
| L8       | 1324 | @pd<"20030910" and<br>(separator or bipolar<br>plate).ti. and 429/1-255.<br>ccls.  | US-PGPUB;<br>USPAT;<br>USOCR | ADJ                 | ON      | 2009/08/02<br>18:44 |
| L9       | 9    | @pd<"20030910" and<br>((separator or bipolar<br>plate) with layers).ti. and<br>429/1-255.cds.  | US-PGPUB;<br>USPAT;<br>USOOR | ADJ                 | ON      | 2009/08/02<br>18:45 |

| L10 | 2223 | (@pdc."20030910" and (separator or bipolar (separator or bipolar plate) same (metal substrate or stainless steel or titanium or steel or aluminum or opper or nickel) same (plated or layer or film) with (nickel or tin or copper or titanium or gold or platinum or silver or palladium or ni or son or cu or ti or au or pt or ag or ppdl) | US-PGPUB;<br>USPAT;<br>USOCR | ADJ | ON | 2009/08/02<br>20:13 |
|-----|------|---|------------------------------|-----|----|---------------------|
| L11 | 659  | @pd<"20030910" and (separator or bipolar plate) with (metal substrate or stainless steel or aluminum or sopper or nickel) with (plated or layer or film) with (nickel or tin or copper or titanium or gold or platinum or silver or palladium or ni or son or cu or ti or au or pt or ag or pdf)  | US-PCPUB;<br>USPAT;<br>USCCR | ADJ | ON | 2009/08/02<br>20:13 |
| L12 | 14   | @pd<"20030910" and (separator or bipolar plate) with (metal substrate or stainless steel or aluminum or copper or nickel) with (plated or layer or film) with (nickel or tin or copper or titanium or gold or platinum or silver or palladium or ni or sn or cu or ti or au or pt or ag or pdt) with (rough\$4 or etch \$3)                   | US-PGPUB;<br>USPAT;<br>USOCR | ADJ | ON | 2009/08/02<br>20:14 |
| L13 | 200  | @pd<"20030910" and<br>(separator or bipolar<br>plate) with (conductive<br>filler or carbon fiber or<br>carbon black or carbon)<br>with resin  | US-PGPUB;<br>USPAT;<br>USOCR | ADJ | ON | 2009/08/02<br>20:47 |

| L14 | 47   | @pd<"20030910" and<br>((separator or bipolar<br>plate) with (conductive<br>filler or carbon fiber or<br>carbon black or carbon)<br>with resin) same (by<br>volume or wt or weight) | US-PGPUB;<br>USPAT;<br>USOCR | ADU | ON  | 2009/08/02<br>20:48 |
|-----|------|--|------------------------------|-----|-----|---------------------|
| L15 | 1    | @pd<"20030910" and<br>(separator or bipolar<br>plate) with (carbon fiber<br>with diameter with length)   | US-PGPUB;<br>USPAT;<br>USOCR | ADJ | ON  | 2009/08/02<br>22:04 |
| L16 | 525  | @pd<"20030910" and<br>(separator or bipolar<br>plate) with (carbon black)  | US-PGPUB;<br>USPAT;<br>USOCR | ADJ | ON  | 2009/08/02<br>22:12 |
| L17 | 25   | @pd<"20030910" and<br>((separator or bipolar<br>plate) with (carbon black)<br>with conductive) and<br>429/1-255.cds.   | US-PGPUB;<br>USPAT;<br>USOCR | ADJ | ON  | 2009/08/02<br>22:12 |
| L18 | 1352 | @pd<"20030910" and<br>((separator or bipolar<br>plate) near3 (thickness))<br>and 429/1-255.ccls.   | US-PGPUB;<br>USPAT;<br>USOCR | ADJ | ON  | 2009/08/02<br>22:20 |
| L19 | 17   | @pd<"20030910" and<br>((separator or bipolar<br>plate) near3 (thickness)<br>near3 micrometer) and<br>429/1-255.cds.  | US-PGPUB;<br>USPAT;<br>USOCR | ADJ | ON  | 2009/08/02<br>22:21 |
| L20 | 72   | @pd<"20030910" and<br>((bipolar plate or<br>separator) same (resin<br>near3 thick\$4)) and 429/1-<br>255.ccls.   | US-PGPUB;<br>USPAT;<br>USOCR | ADJ | ON  | 2009/08/02<br>22:23 |
| L21 | 25   | @pd<"20030910" and<br>((bipolar plate or<br>separator) with (resin<br>near3 thick\$4)) and 429/1-<br>255.ccls.   | US-PGPUB;<br>USPAT;<br>USOCR | ADJ | ON  | 2009/08/02<br>22:24 |
| L22 | 1    | ("20030129471").PN.  | US-PGPUB;<br>USPAT;<br>USOCR | OR  | OFF | 2009/08/02<br>22:25 |
| L23 | 1    | I22 and thick\$4   | US-PGPUB;<br>USPAT;<br>USOCR | ADJ | ON  | 2009/08/02<br>22:26 |
| L24 | 0    | @pd<"20030910" and<br>((bipolar plate or<br>separator) same (resin<br>near3 thick\$4 with optimiz<br>\$4)) and 429/1-255.ccls.   | US-PGPUB;<br>USPAT;<br>USOCR | ADJ | ON  | 2009/08/02<br>23:11 |

| L25 | 6 | @pd<"20030910" and          | US-PGPUB; | ADJ     | ON       | 2009/08/02 |
|-----|---|-----------------------------|-----------|---------|----------|------------|
|     | İ | ((bipolar plate or          | USPAT;    |         |          | 23:12      |
|     | į | separator) same (resin      | USOCR     |         |          |            |
|     | i | near3 thick\$4) same        | •         |         |          |            |
|     |   | (optimiz\$7 or improve\$4)) |           |         |          |            |
|     |   | and 429/1-255.ccls.         |           |         |          |            |
|     |   |                             |           | <u></u> | <u>:</u> | <u> </u>   |

8/2/2009 11:23:13 PM

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